June 7, 2004

Roger C. Zaklukiewicz
Vice President
Transmission Engineering and Operations
Northeast Utilities System
P.O. Box 270
Hartford, CT 06141-0270

Richard J. Reed
Vice President of Electric System
The United Illuminating Company
801 Bridgeport Avenue
Shelton, CT 06484

RE: **DOCKET NO. 272** - The Connecticut Light and Power Company and The United Illuminating Company Application to the Connecticut Siting Council for a Certificate of Environmental Compatibility and Public Need ("Certificate") for the construction of a new 345-kV electric transmission line facility and associated facilities between Scovill Rock Switching Station in Middletown and Norwalk Substation in Norwalk, including the reconstruction of portions of existing 115-kV and 345-kV electric transmission lines, the construction of Beseck Switching Station in Wallingford, East Devon Substation in Milford, and Singer Substation in Bridgeport, modifications at Scovill Rock Switching Station and Norwalk Substation, and the reconfiguration of certain interconnections.

Dear Mr. Zaklukiewicz and Mr. Reed:

The Connecticut Siting Council (Council) requests your responses to the enclosed questions no later than June 11, 2004. To help expedite the Council's review, please file individual responses as soon as they are available.

The Council understands some information may be proprietary and confidential. If this is the case in response to an interrogatory and because of the limited schedule to review information in this proceeding the Council will order, in advance, such information be submitted in a sealed envelope and be protected from disclosure. The submitters should also file a motion for a protective order from the Council. In the event that a Council decision is appealed to the Superior Court, submitting parties are advised that they should submit a motion for protective order to the Court.

Please forward original and 20 copies to this office including an electronic filing. In accordance with the State Solid Waste Management Plan, the Council is requesting that all filings be submitted on recyclable paper, primarily regular weight white office paper. Please avoid using heavy stock paper, colored paper, and metal or plastic binders and separators. A list of parties and intervenors dated March 26, 2004, is enclosed. Fewer copies of bulk material may be provided as appropriate.

Yours very truly,

S. Derek Phelps
Executive Director

Enclosure

c: Parties and Intervenors

Docket No. 272
Connecticut Siting Council
Pre-Hearing Questions
Set Number Three

58. Please provide the latest geographical transmission system maps of the Connecticut Light and Power Company and the United Illuminating Company.

59. Please provide the latest one-line diagrams showing the existing transmission system of the Connecticut Light and Power Company and the United Illuminating Company.

60. Please provide the latest one-line diagrams of the Connecticut Light and Power Company and the United Illuminating Company, showing the existing transmission system, the 345 kV project from Plumtree to Norwalk known as Phase I, as approved, and the 345 kV project from Middletown to Norwalk - Phase II, as proposed.

61. Please provide the NERC Reliability Readiness Audit Report for the Applicant's control area, if completed.

62. Please provide: i) the written reports or internal memos on the steady state load flow analysis, and ii) the electronic files of each load flow base case used by the Applicant, and/or the Applicant's contractors or consultants, with respect to the Phase II alternatives including the following:

    a. Alternative proposed in the Application for a "Certificate of Environmental Compatibility and Public Need for a 345-kV Electric Transmission Line Facility and Associated Facilities between Scovill Rock Switching Station in Middletown and Norwalk Substation in Norwalk" ("Application");
    b. Alternative modeling of the Phase II project as an underground cable over the whole length from Middletown to Norwalk;
    c. All other alternatives developed over the course of the 345kV Phase II certification process.

    Please provide the above required load flow base cases in electronic format used with the PSS/E load flow program:

        a. Load flow base cases without the proposed Phase II (raw and sav format), including the Phase I project;
        b. Load flow base cases with the proposed Phase II Alternative as described in the Application (raw and sav format);
        c. Load flow base cases modeling the Phase II project as an underground cable over the whole length from Middletown to Norwalk;
        d. Load flow base cases with alternatives other than the Phase II alternative proposed in the Application (raw and sav format);
        e. All electronic contingency files (PSS/E con.format) used in the Applicant's transmission planning studies, and applied in studying of alternatives for Phase II by Applicant, and or the Applicant's contractors or consultants;
        f. All electronic monitoring files (PSS/E mon.format) used in the Applicant's transmission planning studies, and applied in studying of alternatives for Phase II by Applicant, and or the Applicant's contractors or consultants;

g. All electronic subsystem files (PSS/E sub.format) used in the Applicant's transmission planning studies, and applied in studying of alternatives for Phase II by Applicant, and or the Applicant's contractors or consultants;
h. All draw files (PSS/E drw.format) used in the Applicant's transmission planning studies, and applied in drawing of the one-line diagrams that shows the Applicant's transmission system.

Please provide the contact name and phone number of the engineer who will be providing the above requested files, for eventual questions that KEMA may have regarding the above requested files.

63. If Applicant did not study an Alternative that models the Phase II project as an underground cable over the whole length from Middletown to Norwalk please provide the Applicant's conceptual design of that alternative. Please apply all commercially available technology to eliminate the capacitive charging and to maintain the voltages within required limits.

64. Please provide the harmonic studies for the Alternative that models the Phase II project as an underground cable over the whole length from Middletown to Norwalk. The harmonic studies should model all the facilities needed for the reactive power compensation, as determined in the load flow study of that alternative, specified under previous Data Request No 6. The harmonic studies should model all the facilities needed to mitigate the negative impact of the Phase II project as an underground cable over the whole length from Middletown to Norwalk.

65. In the "Connecticut Cable Transient and Harmonic Study for Middletown to Norwalk Project East Devon-Beseck 40-mile Cable Option (M/N-P1)", dated November 2003, conducted by GE Power Systems Energy Consulting, and submitted by the Applicant, there is a statement:

> *Attempts to avoid the 2nd harmonic resonance by adding 2nd harmonic filters would not be practical.*
> (Executive Summary, Page ES 2)

Please explain why the addition of the 2nd harmonic filters would not be practical.

66. Please provide the raw data of the EMTP models, in electronic format, that General Electric used to construct their EMTP simulation cases used for the following studies, submitted in the Applicant's Supplemental Filing:

a. Connecticut Cable Transient and Harmonic Study for Middletown to Norwalk Project East Devon-Beseck 40-mile Cable Option (M/N-P1) November 2003;
b. Connecticut Cable Transient and Harmonic Study for Middletown to Norwalk Project East Devon-Beseck 20-mile Cable Option (M/N-P2) December 2003.

Please provide the models: i) with the Phase I and without the Phase II, and ii) with the Phase I and Phase II projects modeled. Please provide the files modeling the Phase II as proposed in the Application, and as studied in the GE studies referenced under a. and b.

The models should include data for transmission lines, transformers, sources, loads, shunt capacitors, shunt reactors, and existing and proposed filters that are modeled to eliminate the harmonics. Please provide the related network diagram.

Please provide the contact name and phone number of the engineer who will be providing the above requested files, for eventual questions that KEMA may have regarding the above requested files.

67. Please provide simulated case files of all simulated ATP EMTP cases listed in the General Electric reports:

    a. Connecticut Cable Transient and Harmonic Study for Middletown to Norwalk Project East Devon-Beseck 40-mile Cable Option (M/N-P1) November 2003;
    b. Connecticut Cable Transient and Harmonic Study for Middletown to Norwalk Project East Devon-Beseck 20-mile Cable Option (M/N-P2) December 2003.

    The case files must be able to run in the ATP EMTP program directly without any change.

    Please provide the contact name and phone number of the engineer who will be providing the above requested files, for eventual questions that KEMA may have regarding the above requested files.

68. For the Black Pond substation provide the following (maps and/or photographs scale 1 inch = 100 feet):

    a. site location and site boundary
    b. delineation of inland wetlands and/or watercourses within 100 feet of the site
    c. nearest residence
    d. identification of adjacent land use
    e. identification of nearest species and natural diversity database buffer zone
    f. identification of nearest historic and/or archeological resource
    g. existing and proposed electric and magnetic fields at the site boundary
    h. noise assessment
    i. sensitive receptors as identified in Public Act 04-246

69. For the East Shore Route, a new line adjacent to the existing 387 line provide the following (maps and/or photographs scale 1 inch = 100 feet):

    a. Existing and proposed right-of-way boundaries
    b. Identification of fee owned and/or easement
    c. cross-section profile of existing and proposed structures
    d. delineation of inland wetlands and/or watercourses within the right-of-way
    e. identification of adjacent land use
    f. identification of species and natural diversity database buffer zone(s) along the right-of-way
    g. identification of historic and/or archeological resource along the right-of-way
    h. existing and proposed electric and magnetic fields for the cross-section profiles
    i. noise assessment
    j. sensitive receptors as identified in Public Act 04-246

70. For the Durham/Middletown Royal Oaks route deviation provide the following:

a. Identification of property owners
b. cross-section profile of existing and proposed structures
c. delineation of inland wetlands and/or watercourses within the right-of-way
d. identification of adjacent land use
e. identification of species and natural diversity database buffer zone(s) along the right-of-way
f. identification of historic and/or archeological resource along the right-of-way
g. existing and proposed electric and magnetic fields for the cross-section profiles
h. noise assessment
i. sensitive receptors as identified in Public Act 04-246.